

Notice of Allowability

Application No.

09/554,531

Examiner

Andrew D. Kosar

Applicant(s)

BEELEY ET AL.

Art Unit

1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/25/06.
2. ☒ The allowed claim(s) is/are 1-75.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☒ Interview Summary (PTO-413), Paper No./Mail Date 20060918.
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other _____

Andrew D. Kosar, Ph.D.
Patent Examiner
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DRAFT EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a interview with Applicant's representative, Dianne Rees, on January 12, 2007.

The application has been amended as follows:

REPLACE claim 1 with the following:

Claim 1. A peptide compound or pharmaceutically acceptable salt, thereof, selected from:

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Xaa₃₈-Xaa₃₉-Z₂, (SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Xaa₃₈-Z₂, (residues 1-38 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Z₂, (residues 1-37 of SEQ ID NO:4)-Z₂;

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Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Gly-Ala-Xaa₃₆-Z₂, (residues 1-36 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Gly-Ala-Z₂, (residues 1-35 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Gly-Z₂, (residues 1-34 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Z₂, (residues 1-33 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Z₂, (residues 1-32 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Z₂,
(residues 1-31 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Z₂,
(residues 1-30 of SEQ ID NO:4)-Z₂;

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Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Z₂, (residues 1-29 of SEQ ID NO:4)-Z₂; and

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Z₂, (residues 1-28 of SEQ ID NO:4)-Z₂;

wherein:

Xaa₁ is His, Arg, Tyr, Ala, Norval, Val or Norleu;

Xaa₂ is Ser, Gly, Ala or Thr;

Xaa₃ and Xaa₂₄ are each independently Ala, Asp or Glu;

Xaa₄ is Ala, Norval, Val, Norleu or Gly;

Xaa₅ is Ala or Thr;

Xaa₆ is Ala, Phe, Tyr or naphthylalanine;

Xaa₇ is Thr or Ser;

Xaa₈ is Ala, Ser or Thr;

Xaa₉ is Ala, Norval, Val, Norleu, Asp or Glu;

Xaa₁₀ and Xaa₁₄ are each independently Ala, Leu, Ile, Val, pentylglycine or Met;

Xaa₁₁ is Ala or Ser;

Xaa₁₂ and Xaa₂₇ are each independently Ala or Lys;

Xaa₁₃ is Ala or Gln;

Xaa₁₅, Xaa₁₆ and Xaa₁₇ are each independently Ala or Glu;

Xaa₁₉ is Ala or Val;

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Xaa₂₀ is Ala or Arg;

Xaa₂₁ and Xaa₂₆ are each independently Ala or Leu;

Xaa₂₂ is Phe, Tyr or naphthylalanine;

Xaa₂₃ is Ile, Val, Leu, pentylglycine, tert-butylglycine or Met;

Xaa₂₅ is Ala, Trp, Phe, Tyr or naphthylalanine;

Xaa₂₈ is Ala or Asn;

Xaa₃₁, Xaa₃₆, Xaa₃₇, and Xaa₃₈ are each independently Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine or N-alkylalanine;

X₃₉ is Ser or Tyr;

Z₂ is -OH or -NH₂; and

provided that no more than three of Xaa₃, Xaa₄, Xaa₅, Xaa₆, Xaa₈, Xaa₉, Xaa₁₀, Xaa₁₁, Xaa₁₂, Xaa₁₃, Xaa₁₄, Xaa₁₅, Xaa₁₆, Xaa₁₇, Xaa₁₉, Xaa₂₀, Xaa₂₁, Xaa₂₄, Xaa₂₅, Xaa₂₆, Xaa₂₇ and Xaa₂₈ are Ala; and provided also that if Xaa₁ is His, Arg or Tyr, then at least one of Xaa₃, Xaa₄ and Xaa₉ is Ala.

REPLACE claim 18 with the following:

Claim 18. The compound according to claim 17 wherein the peptide is Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-NH₂, (residues 1-28 of SEQ ID NO:4)-NH₂.

REPLACE claim 25 with the following:

The compound according to claim 19, where Z₂ is -NH₂.

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REPLACE claim 26 with the following:

Claim 26. The compound according to claim 1 wherein the peptide is Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-NH₂, (residues 1-28 of SEQ ID NO:4)-NH₂.

REPLACE claim 29 with the following:

Claim 29. A peptide compound or pharmaceutically acceptable salt, thereof, selected from:

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Xaa₃₈-Z₂, (residues 1-38 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Z₂, (residues 1-37 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Xaa₃₆-Z₂, (residues 1-36 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Z₂, (residues 1-35 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Z₂, (residues 1-34 of SEQ ID NO:4)-Z₂;

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Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Ser-Z₂, (residues 1-33 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-
Z₂, (residues 1-32 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Z₂,
(residues 1-31 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Z₂,
(residues 1-30 of SEQ ID NO:4)-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Z₂, (residues 1-
29 of SEQ ID NO:4)-Z₂; and

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Z₂, (residues 1-28 of
SEQ ID NO:4)-Z₂;

wherein:

Xaa₁ is His or Ala;

Xaa₂ is Gly or Ala;

Xaa₃ and Xaa₂₄ are each independently Ala, Asp or Glu;

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Xaa₄ is Ala or Gly;

Xaa₅ is Ala or Thr;

Xaa₆ is Ala, Phe or naphthylalanine;

Xaa₇ is Thr or Ser;

Xaa₈ is Ala, Ser or Thr;

Xaa₉ is Ala, Asp or Glu;

Xaa₁₀ is Ala, Leu or pentylglycine;

Xaa₁₁ is Ala or Ser;

Xaa₁₂ and Xaa₂₇ are each independently Ala or Lys;

Xaa₁₃ is Ala or Gln;

Xaa₁₄ is Ala, Leu, Met or pentylglycine;

Xaa₁₅, Xaa₁₆ and Xaa₁₇ are each independently Ala or Glu;

Xaa₁₉ is Ala or Val;

Xaa₂₀ is Ala or Arg;

Xaa₂₁ and Xaa₂₆ are each independently Ala or Leu;

Xaa₂₂ is Phe or naphthylalanine;

Xaa₂₃ is Ile, Val or tert-butylglycine;

Xaa₂₅ is Ala, Trp or Phe;

Xaa₂₈ is Ala or Asn;

Xaa₃₁, Xaa₃₆, Xaa₃₇, and Xaa₃₈ are each independently Pro, homoproline, thioproline, N-methylalanine;

Z₂ is -OH or -NH₂; and

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provided that no more than three of Xaa₃, Xaa₄, Xaa₅, Xaa₆, Xaa₈, Xaa₉, Xaa₁₀, Xaa₁₁, Xaa₁₂, Xaa₁₃, Xaa₁₄, Xaa₁₅, Xaa₁₆, Xaa₁₇, Xaa₁₉, Xaa₂₀, Xaa₂₁, Xaa₂₄, Xaa₂₅, Xaa₂₆, Xaa₂₇ and Xaa₂₈ are Ala; and provided also that if Xaa₁ is His then at least one of Xaa₃, Xaa₄ and Xaa₉ is Ala.

REPLACE claim 31 with the following:

A composition comprising a compound of any one of claims 1 to 14, 20, 22, 24 and 26 to 29 in a pharmaceutically acceptable carrier.

REPLACE claim 42 with the following:

Claim 42. A compound or pharmaceutically acceptable salt, thereof, selected from:

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Xaa₃₈-Xaa₃₉-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-Xaa₂₇-Xaa₂₈-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Xaa₃₈-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Xaa₃₆-Xaa₃₇-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-Ala-Xaa₃₆-Z₂;

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Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-
Ala-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Ser-Ser-Gly-
Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Ser-Ser-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Ser-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Xaa₃₁-Z₂;;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Gly-Z₂;

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Gly-Z₂; and

Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-
Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-Z₂;

wherein:

Xaa₁ is His, Arg, Tyr, Ala, Norval, Val, Norleu or 4-imidazolepropionyl;

Xaa₂ is Ser, Gly, Ala or Thr;

Xaa₃ and Xaa₂₄ are each independently Ala, Asp or Glu;

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Xaa₄ is Ala, Norval, Val, Norleu or Gly;

Xaa₅ is Ala or Thr;

Xaa₆ is Ala, Phe, Tyr or naphthylalanine;

Xaa₇ is Thr or Ser;

Xaa₈ is Ala, Ser or Thr;

Xaa₉ is Ala, Norval, Val, Norleu, Asp or Glu;

Xaa₁₀ and Xaa₁₄ are each independently Ala, Leu, Ile, Val, pentylglycine or Met;

Xaa₁₁ is Ala or Ser;

Xaa₁₂ is Ala or Lys;

Xaa₁₃ is Ala or Gln;

Xaa₁₅, Xaa₁₆ and Xaa₁₇ are each independently Ala or Glu;

Xaa₁₉ is Ala or Val;

Xaa₂₀ is Ala or Arg;

Xaa₂₁ is Ala, Leu or Lys(R),

where R is attached to the ϵ -amine of lysine and is selected from the group consisting of Lys, Arg, C₁-C₁₀ straight chain or branched alkanoyl or cycloalkylalkanoyl;

Xaa₂₂ is Phe, Tyr or naphthylalanine;

Xaa₂₃ is Ile, Val, Leu, pentylglycine, tert-butylglycine or Met;

Xaa₂₅ is Ala, Trp, Phe, Tyr or naphthylalanine;

Xaa₂₆ is Ala or Leu;

X₁ is Lys-Asn, Asn-Lys, Lys(R)-Asn, Lys(R)-Ala, Asn-Lys(R) and Ala-Lys(R),

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where R is attached to the ϵ -amine of lysine and is selected from the group consisting of Lys, Arg, C₁-C₁₀ straight chain or branched alkanoyl or cycloalkylalkanoyl;

Xaa₃₁, Xaa₃₆, Xaa₃₇, and Xaa₃₈ are each independently Pro, homoproline, 3Hyp, 4Hyp, thioproline, N-alkylglycine, N-alkylpentylglycine or N-alkylalanine;

X₃₉ is Ser or Tyr;

Z₂ is -OH or -NH₂; and

provided that no more than three of Xaa₃, Xaa₄, Xaa₅, Xaa₆, Xaa₈, Xaa₉, Xaa₁₀, Xaa₁₁, Xaa₁₂, Xaa₁₃, Xaa₁₄, Xaa₁₅, Xaa₁₆, Xaa₁₇, Xaa₁₉, Xaa₂₀, Xaa₂₁, Xaa₂₄, Xaa₂₅, Xaa₂₆, Xaa₂₇ and Xaa₂₈ are Ala; and provided also that if Xaa₁ is His, Arg, Tyr or 4-imidazolepropionyl, then at least one of Xaa₃, Xaa₄ and Xaa₉ is Ala.

REPLACE claim 59 with the following:

Claim 59. The compound according to claim 42 wherein the compound is Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-NH₂.

REPLACE claim 67 with the following:

Claim 67. The compound according to claim 42 wherein the compound is Xaa₁-Xaa₂-Xaa₃-Xaa₄-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Xaa₁₀-Xaa₁₁-Xaa₁₂-Xaa₁₃-Xaa₁₄-Xaa₁₅-Xaa₁₆-Xaa₁₇-Ala-Xaa₁₉-Xaa₂₀-Xaa₂₁-Xaa₂₂-Xaa₂₃-Xaa₂₄-Xaa₂₅-Xaa₂₆-X₁-OH.

ADD NEW Claims 74 and 75:

Claim 74. The compound according to claim 21, where Z₂ is -NH₂.

Claim 75. The compound according to claim 23, where Z₂ is -NH₂.

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The following is an examiner's statement of reasons for allowance:

The closest art US Patents 6,506,724 B1 and 6,924,264 B1 are not applicable under any statute as prior art, and the prior art of record does not teach or suggest, alone or in combination, the instantly claimed extendin agonists.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


In view of the Examiner's amendment, **claims 1-75 are allowed.**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew D. Kosar whose telephone number is (571)272-0913. The examiner can normally be reached on Monday - Friday 08:00 - 16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia J. Tsang can be reached on (571)272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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